

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/017490

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ A61K31/675, A61P7/10, 9/00, 9/04, 9/10, 13/12, 25/04, 25/08, 29/00, 35/00, 43/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ A61K31/675, A61P7/10, 9/00, 9/04, 9/10, 13/12, 25/04, 25/08, 29/00, 35/00, 43/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
CA (STN), REGISTRY (STN)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	WO 03/062201 A1 (VITTAL MALLYA SCIENTIFIC RESEARCH FOUNDATION), 31 July, 2003 (31.07.03), Claims 1 to 54; example 18 (Family: none)	1-4, 11-17, 19 5-10
X	Kenji HARADA, Clinical Efficacy of Efonidipine Hydrochloride, a T-type Calcium Channel Inhibitor, on Sympathetic Activities, Circulation Journal, 2003, Vol.67, Issue 2, pages 139 to 145	1, 5-7, 15-17, 19

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search
20 January, 2005 (20.01.05)

Date of mailing of the international search report
08 February, 2005 (08.02.05)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

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PCT/JP2004/017490

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	P.PHANI KUMAR, Synthesis and Evaluation of a New Class of Nifedipine Analogs with T-Type Calcium Channel Blocking Activity, Molecular Pharmacology, 2002, Vol.61, No.3, pages 649 to 658	1, 11-14 15-17, 19
X A	JP 60-69089 A (Nissan Chemical Industries, Ltd.), 19 April, 1985 (19.04.85), Claim 1; page 5, upper left column, lines 12 to 14 & EP 141221 A1 & US 4576934 A	15-17, 19 1-14
X A	JP 63-233992 A (Nissan Chemical Industries, Ltd.), 29 September, 1988 (29.09.88), Claims 1 to 5; page 2, upper right column, 8th to 6th lines from the bottom & WO 87/4439 A1 & EP 230944 A1 & JP 62-169795 A	15-17, 19 1-14
X A	JP 1-275591 A (Nissan Chemical Industries, Ltd.), 06 November, 1989 (06.11.89), Claims 1 to 8; page 2, upper left column, lines 10 to 14 (Family: none)	15-17, 19 1-14
X	Hiromichi SUZUKI, "Cilnidipine no Jinkokasho o Tomonau Koketsuatsu Kanja no Koatsu oyobi Nyotanpaku Gensho Koka", Therapeutic Research, 2000, Vol.21, No.4, pages 760 to 762	15-17, 19
Y	D.Bilici, Protective Effect of T-type Calcium Channel Blocker in Histamine-induced Paw Inflammation in Rat, Pharmacological Research, 2001, Vol.44, No.6, pages 527 to 531	15-17, 19
Y	Chris Baylis, Comparison of L-Type and Mixed L-and T-Type Calcium Channel Blockers on Kidney Injury Caused by Deoxycorticosterone-Salt Hypertension in Rats, American Journal of Kidney Diseases, 2001, Vol.38, No.6, pages 1292 to 1297	15-17, 19
Y	William F. McCalmont, Design, synthesis, and biological evaluation of novel T-Type calcium channel antagonists, Bioorganic & Medicinal Chemistry Letters, 2004, Vol.14, No.14, pages 3691 to 3695	15-17, 19

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PCT/JP2004/017490

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Darrell M. Porcello, Actions of U-92032, a T-Type Ca^{2+} Channel Antagonist, Support a Functional Linkage Between I_t and Slow Intrathalamic Rhythms, J Neurophysiol., 2003, Vol.89, No.1, pages 177 to 185	15-17,19
P,X	WO 2004/024153 A2 (DIAKRON PHARMACEUTICALS, INC.), 25 March, 2004 (25.03.04), Claims 1 to 11 (Family: none)	1-4,11-17,19